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No Days 2, 5 or 6

FOR INTERNAL ROUTING ONLY

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* GPO : 1966 O-797-276

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03 06 42 09 CMP Roger, Houston. I'll read the book this time.

03 06 42 11 LMP - - 60-degree limit, with a secondary loop.

03 06 42 32 LMP Frank, here's a map floating or - Jim, here's a map floating around.

03 06 42 40 LMP Oh, it's right there.

03 06 42 42 CMP You know, that was one of the easiest points I've ever found.

03 06 42 46 LMP Good.

03 06 42 47 CMP You didn't need maps or anything to make that ... You saw it, too, didn't you? You didn't have to look at the map but one time?

03 06 42 58 LMP Yes, out the side window there when we had the TV pass.

03 06 43 05 CMP I hope you got some good 70-millimeter shots of that area, Bill, because that's - that's it - -

03 06 43 10 LMP Of what area?

03 06 43 11 CMP Of our prime landing area, because right now we'll be passing over lighting conditions of our P 2 - -

03 06 43 16 LMP I haven't, Jim, because we - we always roll about that time when we get TV.

03 06 43 22 CMP No, I'm still taking pictures. I'm still landmark tracking.

03 06 43 26 LMP Yes, I can't take - I can't take pictures when you're tracking, because these side windows are shot. They look out the side anyway.

03 06 43 33 CMP Well, that's why I wanted to get some before when we were doing that tracking, because then - Did you do them when we got that other track?

03 06 43 38 LMP I tried to.

03 06 43 42 CMP I think - Probably be our primary landing site.

03 06 43 44 LMP Why don't you just make it a project just to make sure you get some, because you can recognize it better than I can.

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03 06 43 55 CMP Oh, yes, but you - -

03 06 43 56 LMP You got - -

03 06 43 57 CMP - - the 16-millimeter through here is lousy.

03 06 43 58 LMP No, the 16's no good. You've got to - you've got a 70-millimeter lens? If you have image - if you - if you - if you track your target, then you've got better resolution than the other one.

03 06 44 10 CMP Well, the thing is, it doesn't show enough of what you want to look for; that's the big thing, too. Yet, in spite of the place to land, you - -

03 06 44 16 LMP Did you ever see how big it could work?

03 06 44 17 CMP - - you want the big picture.

03 06 44 18 LMP Huh? Okay, let me show you how much you get, though.

03 06 44 26 CMP What - what I'm trying to show the people is the big - big areas around there, what they can see in the way of craters and mountains and things. You see, if I just show them a real fine resolution of a bunch of craters, they don't know what they are.

03 06 44 43 LMP Okay.

03 06 44 44 CMP That's the big point.

03 06 44 48 CMP That's why that earth-moon shot with a whole big expanse of - What have we got?

03 06 44 53 LMP High gain. Okay. It's behind us and up. Let's try OMNI B. Okay.

03 06 46 18 LMP Okay. ... pitch down at 0000.

03 06 46 36 LMP Rolling over; got to get it back down.

03 06 46 47 LMP It'll get worse before it gets better.

03 06 46 52 CMP Okay. Let's see, our first control point is at - -

03 06 46 56 LMP Okay, let's see how much time we got.

03 06 46 57 CMP - - 78:46. We got all sorts of time. We got 25 minutes.

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03 06 47 02 LMP 0.2 of a degree per second.

03 06 47 25 LMP You get - give me the word on the ORDEAL, here, Jim, and - let me know how we're doing. 62 60?

03 06 47 36 CMP Yes.

03 06 47 37 LMP Okay, that sounds good. How about giving me a -

03 06 47 40 CMP Oh, that's our orbit.

03 06 47 44 LMP Yes, how about giving me the high gain?

03 06 47 51 CMP GDC isn't aligned in roll; I've got to do that.

03 06 47 54 LMP Okay, stop your attitude there before you - stop your ...

03 06 47 58 CMP Okay, I'll wait until I get there then.

03 06 49 49 CMP What else does the flight plan say, Bill?

03 06 49 53 LMP I don't see any - There's a 16-millimeter camera, sextant bracket, C-EX, 1 - 1/500th of a second. You been having any at 1/500th of a second?

03 06 50 11 CMP Mine was at 250. They say 1/500th of a second, now?

03 06 50 13 LMP Yes.

03 06 50 16 LMP The other one's 1/250?

03 06 50 17 CMP Take a look, take a look.

03 06 50 20 LMP ... left and then 150th.

03 06 50 28 CMP Okay, 1/500th of a second.

03 06 50 30 LMP Okay. Start it at IP 1, time of closest approach.

03 06 50 33 CMP Okay.

03 06 50 34 LMP That'll be doing spacecraft exterior atmosphere, but, hell, we can't do anything with these windows.

03 06 50 45 CMP Shouldn't it be getting a little more picturesque?

03 06 50 48 LMP Yes, beginning REV 6. It doesn't seem like we've hardly been here that long, does it?

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03 06 51 21 CMP It seems like I've been here forever.

03 06 51 32 LMP You know, it really isn't all that - Anywhere near as interesting as I thought it was going to be. It's all beat up.

03 06 51 53 CMP The things that I saw that were interesting were the new craters.

03 06 51 57 LMP Yes, but they're not the ones that people are really interested in; some of them they are, but -

03 06 53 55 LMP Listen, I'm going to align the GDC here, Jim.

03 06 53 59 CMP Huh?

03 06 54 00 LMP I'm going - align the GDC. You want to make sure I do it right?

03 06 54 03 CMP Well, let's get out the book.

03 06 54 11 CMP Go ahead, Houston; Apollo 8 here.

03 06 54 16 CC ...

03 06 54 28 CMP Stand by. The commander's asleep; we'll get his when he wakes up.

03 06 54 39 LMP LMP is still 6 - 0.6, correction, 0.64.

03 06 54 57 CMP Here's mine: CMP is 0.09.

03 06 55 19 LMP Okay, Jim, you want to look at this operation, here?

03 06 55 22 CMP Okay, I'll - Give me that - Okay, let me just go through this whole procedure here.

03 06 55 27 LMP Yes, I got it on - number 1 ATT SET, IMU, that's a firm wheel trim and the pictures match up with the ball.

03 06 55 38 CMP You're at ATT SET, IMU, and number 1 ball, right?

03 06 55 42 LMP Yes.

03 06 55 43 CMP Okay, just a second.

03 06 55 45 LMP Yes.

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03 06 55 48 LMP Pardon me?
03 06 55 50 CDR ...
03 06 55 51 LMP No, I just put it to number 1 - number 1 ball align to GDC.
03 06 55 57 CDR ...
03 06 55 58 CMP Okay, is the COAS -
03 06 56 04 LMP Okay.
03 06 56 06 CMP Getting ready to get align with the number 2 ball?
03 06 56 08 LMP I'm going to align the GDC, right.
03 06 56 14 CMP Okay.
03 06 56 23 CMP ...
03 06 56 27 CMP Okay, now you want this one?
03 06 56 29 LMP Yes, now I'll need that.
03 06 56 33 CMP You got it, looking at you.
03 06 56 36 LMP Okay, that's -
03 06 56 39 CMP That's your pitch.
03 06 56 40 LMP What? Zero? Or 34?
03 06 56 44 CMP 34 degrees.
03 06 56 45 LMP That's good. Good.
03 06 57 17 LMP Coming up on REV 6.
03 06 57 19 CDR ...
03 06 57 21 LMP Yes, you just went down about 5 minutes ago.
03 06 57 23 CDR ...
03 06 57 24 LMP No. (Laughter)
03 06 57 26 CDR ...

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03 06 57 27 LMP That's right. (Laughter)

03 06 58 12 CC ...

03 06 58 18 CMP Roger, Houston. We'll give it another try here.

03 06 58 32 CMP What time is it there? About 2 o'clock?

03 06 58 42 CMP Are you finished with the computer?

03 06 58 44 LMP Yes, go ahead.

03 06 59 20 CDR How are the systems, Bill?

03 06 59 25 LMP Well, the last time I looked at them, they were pretty good, chief.

03 06 59 32 LMP All the gages are looking at each other.

03 07 00 03 LMP If you want to say anything about your tracking pass this time, I - Just let me know and we can go into HIGH bit rate.

03 07 00 15 CMP Okay.

03 07 00 25 CMP Okay, how about keeping your eye on these camera settings, too, on the next couple of passes?

03 07 00 29 LMP You wanted to be 10 degrees, didn't you?

03 07 00 33 CMP Yes.

03 07 00 36 LMP Well, overshot, then.

03 07 00 54 LMP Okay, the first one is 1/500th of a second.

03 07 00 56 CMP Okay.

03 07 02 05 CMP All those scientists are saying now, "Ohhh, if we only had a geologist onboard."

03 07 02 10 LMP Okay, he couldn't see anything. I took that monocular and tried to eyeball it out the window last time.

03 07 02 16 CMP Yes?

03 07 02 18 LMP Nothing but a big blur out there. He'd see enough to make it interesting, but not enough to do anything.

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03 07 03 05 CMP Okay, I'm going to go out of here.
03 07 05 30 LMP 4 minutes.
03 07 05 51 LMP Okay, when's your first PCA - TCA?
03 07 05 56 CMP 79:10.
03 07 05 58 LMP Huh?
03 07 05 59 CMP 79:10.
03 07 06 00 LMP 79:10?
03 07 06 04 CMP Yes, sunrise, it says here.
03 07 06 06 LMP I can't hear you.
03 07 06 07 CMP Sunrise is 79:08.
03 07 06 08 LMP Yes.
03 07 06 22 CMP We're 3 minutes away; that's 9 degrees.
03 07 06 35 CMP Oh, boy, I may see the sun; I'd better be careful too.
Hey, there is - there's a - there's a glow, you can
see the sun come around a little bit.
03 07 06 44 LMP Is that right?
03 07 06 45 CMP Yes, I can see the sun come up before it comes up.
03 07 06 54 CMP Like zodiacal light, a little bit, maybe.
03 07 06 57 LMP Rim brightening, they call it?
03 07 06 59 CMP Yes.
03 07 07 27 CMP Yes, you sure can.
03 07 07 34 CMP Oh boy!
03 07 07 43 LMP Can you describe it?
03 07 07 50 CMP Yes, it's a real bright glow right in one spot, and it
fans out all over the horizon. And I'm just trying to
move my eye away, because the sun's going to peek over

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here any second now, and it's getting brighter and brighter, and it's get - It's an even light.

03 07 08 04 LMP Bright spot fans out over horizon?

03 07 08 06 CMP Yes, yes, then it fans up into the air; it's an even light; then all of sudden, it - The sun is peeking out right now.

03 07 08 12 CMP Whooo!

03 07 08 19 CMP See it?

03 07 08 35 LMP Gees, I got a start there. I saw that - some stuff come out of the optics or something; I thought it was a star whirling by.

03 07 08 53 CMP Alright, now you want to roll to keep that trunnion - -

03 07 08 57 LMP We wouldn't want - I didn't realize you were that quick. Okay, which way?

03 07 09 00 CMP Okay, roll - roll left.

03 07 09 01 LMP Roll left, okay.

03 07 09 03 LMP I'm yawing - -

03 07 09 05 CMP Watch her - watch her as she comes down.

03 07 09 07 LMP I yawed a little left.

03 07 09 09 CMP Okay.

03 07 09 44 LMP How are we doing?

03 07 09 47 CMP Okay.

03 07 09 52 CMP Is it 10 degrees left?

03 07 09 54 LMP Yes, right now. You got enough roll? What happened?

03 07 10 06 CMP I went to MANUAL. I'll get it for you.

03 07 10 47 LMP You alright? You got your camera on?

03 07 10 53 CMP I'll put it on, just as soon as we get rid of the sun.

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03 07 11 11 CMP ... turn it down now.

03 07 11 16 LMP Wait a minute, you - you want me to - you want me to try to avoid it?

03 07 11 19 CMP Yes, you can pitch down a little bit.

03 07 11 22 LMP Hey, wait a minute, are you - I'm roll - I may roll over 10 degrees.

03 07 11 29 LMP That you that's driving it?

03 07 11 31 CMP No, I'm not driving it now. Well, I'm driving it now, yes. That's enough. That's enough.

03 07 11 38 CMP Let me go back there and try this CMC again.

03 07 11 48 CMP Okay, let's try that one again.

03 07 11 53 LMP Pitch down?

03 07 12 03 LMP We're right smack on 10 degrees.

03 07 12 06 CMP Okay.

03 07 12 12 CMP You can pitch down a little more, if you want to.

03 07 12 14 LMP Okay.

03 07 12 55 CMP Okay, AUTO OPTICS is doing the whole thing for me. Now - get this camera going.

03 07 13 28 CMP AUTO is fairly close.

03 07 13 52 CMP Fantastic pictures here, Bill.

03 07 14 36 CMP Give you a MANUAL OPTICS.

03 07 16 01 CMP Oh my gosh!

03 07 16 02 LMP What?

03 07 16 03 CMP My AUTO OPTICS has put it right on.

03 07 16 05 LMP We going to make that angle, or not?

03 07 16 14 CMP I'm just letting it run here for a little bit before I try to brake it..

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03 07 16 17 LMP It's getting kind of small.

03 07 16 19 CMP That's - that's okay. Don't bother using up gas. Okay.

03 07 16 23 LMP Alright. I already bothered, I'm sorry.

03 07 16 30 LMP I haven't loaded this camera, ...

03 07 17 18 CMP Ahhh!

03 07 17 19 LMP What? What happened?

03 07 17 24 CMP Oh, that's okay.

03 07 17 26 CMP It's chilly in here - -

03 07 17 28 LMP Don't - don't wake up Frank.

03 07 17 29 CMP Oh, okay. Okay.

03 07 17 37 CMP Yes. Sorry, Frank, I didn't mean to disturb you. Thought I pushed the wrong button.

03 07 18 13 CMP Okay, what's your attitude now?

03 07 18 17 LMP Seems to - oh, about 6 degrees.

03 07 18 18 CMP Above?

03 07 18 19 LMP Yes.

03 07 18 21 CMP Okay, just hold it right there.

03 07 18 56 CMP Okay, we've got another one coming up. Same procedure.

03 07 19 06 CMP This is - Now, where's that book?

03 07 19 14 CMP I've got ... book's over there.

03 07 20 43 LMP Should be coming up on Low right now.

03 07 21 13 CMP Okay, we're tracking the new one.

03 07 21 15 CDR ...

03 07 21 16 LMP Yes?

03 07 21 17 CDR ...

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03 07 21 18 LMP It's still going on, Frank.

03 07 23 39 CMP Do we have the recorder on?

03 07 23 43 LMP On LOW bit rate. Do you want to say something?

03 07 23 46 CMP Yes, well.

03 07 23 48 LMP You're quite welcome. Okay, why don't you stop it, and put it to HIGH bit rate, and put it forward again?

03 07 24 03 CMP Okay.

03 07 24 10 CMP (Whistling) Okay.

03 07 24 13 CMP Tape recorder is where - RECORD, FORWARD - -

03 07 24 16 LMP Just put it - put it to STOP.

03 07 24 19 CMP Which one is it, the center?

03 07 24 21 LMP Yes.

03 07 24 22 LMP No, no, no, no. Push this forward.

03 07 24 24 CMP Forward?

03 07 24 25 LMP Put it this way in the middle.

03 07 24 26 CMP Yes.

03 07 24 42 CMP - - several comments on - -

03 07 24 43 LMP Good and loud; they'll never be able to hear you there.

03 07 24 46 CMP Several comments on landmark tracking. The last time I used AUTO OPTICS, putting in the coordinates, I found the first time in MANUAL OPTICS for CP 1. The G&N system did quite well. It tracked almost as good as I could track manually right on the target, and I tipped it over just at the last moment to take my five marks. There - appears to be very smooth tracking; no problem - with this particular system. I'm now in CP 2; I have it just below the horizon now, and it's tracking down from the horizon automatically.

03 07 25 32 CMP Okay. Now, what do you want me to do?

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03 07 25 36 LMP The same deal in reverse.

03 07 25 40 CMP Okay, I'll go to - STOP?

03 07 25 45 LMP Yes.

03 07 27 45 CMP Look at that! It is right on!

03 07 32 32 CDR Are you using this map for anything, Jim?

03 07 33 23 LMP Got the rate, Jim?

03 07 38 42 CMP No, this is pretty good, though, I didn't - Maybe that could be the problem. Maybe I could ...

03 07 38 56 CMP Oh, it's scheduled a little later in the day ...

03 07 39 11 LMP What is that, Jim?

03 07 39 42 CMP What was that? ...

03 07 39 47 LMP Oh, that?

03 07 39 48 CMP You hear that noise over there?

03 07 39 49 LMP Yes.

03 07 42 17 CMP Okay.

03 07 44 17 LMP How long does this hand controller stay armed?

03 07 44 23 LMP Hey, Jim.

03 07 44 24 CMP Yes.

03 07 44 25 LMP This hand controller's armed.

03 07 46 47 CMP This should be ... or ...?

03 07 47 20 LMP Houston, Apollo 8.

03 07 47 29 CMP Try them again.

03 07 47 30 LMP Houston, Apollo 8.

03 07 48 47 LMP Houston, this is Apollo 8. Over.

03 07 50 09 CMP Did you see our landing site, Frank?

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03 07 50 11 CDR Huh?

03 07 52 03 LMP Houston, Apollo 8. Over.

03 07 52 54 CMP Yes, sir. ... down there?

03 07 55 42 CMP Houston, Apollo 8.

03 07 55 49 CMP Roger. Houston, a few words on our optics tracking system. I used AUTO OPTICS for control points 1 and 2 on the backside, and they worked beautifully, tracked both targets for me. And I went to the control point 3 as designated in our orbital-control book to see the latitude and longitude that was given to me, and used AUTO OPTICS to track that particular coordinate with it, and it was very close to the actual tracking plot. I picked the mark there where I did a final marking and recorded latitude and longitude. I'm now about to come up on the landing site and using AUTO OPTICS in the coded input to see how that works.

03 07 59 33 CMP Go ahead.

03 07 59 51 CMP I ... on the P52 ...

03 08 01 05 LMP Yes.

03 08 02 48 CMP Well, you can almost ...

03 08 02 53 CMP I'll do one thing until I get up there, but ...

03 08 06 25 CMP You want to take a look at this? ... it's something - I don't know what.

03 08 06 52 CMP Just wonderful ... right on ...

03 08 07 56 CMP Mike, Apollo 8.

03 08 08 03 CMP Roger; I'm in AUTO OPTICS now on the landing site. It would just warm up old Jack Schmidt's heart. This AUTO OPTICS is tracking perfectly on the - target and the two IP's turned out beautifully. I have a beautiful view of it. The first IP's ... through the vertical now and the second one is coming up - it's just a grand view.

03 08 08 45 CMP For Jack's information, the sun angles that we see now from the first IP, second IP, and the P 1 are just right, I think, for landing conditions. The shadows aren't

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too deep for you to get confused, but the land is - has texture to it, and there are enough shadows to make everything stand out.

03 08 09 12 LMP If Jack's listening, tell him that the optics may be doing alright, but the eyeballs are having a little trouble seeing through all this smear on the windows.

03 08 09 31 LMP The windows have the same smear to - The rendezvous windows are okay, but they're so small and looking in the wrong direction so far.

03 08 09 41 LMP I think the vertical stereo will be okay.

03 08 11 09 LMP It certainly looks like we picked the more interesting part of the moon to land on. The backside looks like a sandpile my kids have been playing in for a long time. It's all beat up, no definition, just a lot of bumps and holes.

03 08 11 25 CDR I'm looking at IIP 2 right now, Houston, and it's a great spot.

03 08 11 32 LMP The area we're over right now gives some hint of possible volcanic, though I can't eyeball it at the moment to pin it down. There are some craters and buildups that just definitely suggest volcanic activity.

03 08 12 04 LMP Yes, that backside doesn't look too good.

03 08 12 13 LMP That was relatively speaking, of course.

03 08 12 29 CMP Frank, we're just finishing up the ... here. ...

03 08 14 56 CMP We've got to copy this ..., too.

03 08 16 55 LMP ... Frank, the SPS is about ... hours ...

03 08 16 59 CDR Okay.

03 08 17 06 CMP Okay.

03 08 17 07 LMP We got about 4 hours ... It's about 4-1/2 hours.

03 08 17 32 CMP You know, ... the trash bag, we ought to get out that ... and look it over.

03 08 18 04 LMP Same set.

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03 08 18 05 CMP Do you need that anymore, Bill?

03 08 18 07 LMP Lan - landing site, landing site. Yes.

03 08 18 13 CMP Do you need that anymore, Bill?

03 08 18 14 LMP Do I need what? No, I don't need anymore.

03 08 18 19 LMP You might as well sleep, or one of us might as well, because it doesn't - doesn't take two guys to do it, and you can't see anything else anyway. The other guy's just sitting around scratching his rear.

03 08 18 43 CMP Have they sent us updates, yet?

03 08 18 45 CDR No.

03 08 18 51 CMP Houston, Apollo 8.

03 08 18 57 CMP Go ahead, Houston.

03 08 19 03 CMP Roger. Get all - the figures?

03 08 19 07 LMP Roger.

03 08 19 08 CMP Okay.

03 08 19 09 LMP It's up to him.

03 08 19 13 CDR Have we lost contact with them?

03 08 29 08 SC I think there's pieces of a ...

03 08 29 10 SC I think I'll just hold onto this thing ...

03 08 39 24 LMP Go ahead, Houston.

03 08 39 30 LMP Roger; how far did you want us to dump that water?

03 08 39 42 LMP Roger; 25 percent.

03 08 39 43 CMP We ought to get that thing set up right now.

03 08 39 45 LMP Okay.

03 08 39 49 CMP Because I can be - we can be tracking while we're dumping, too.

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03 08 40 52 CMP Houston, Apollo 8.

03 08 41 11 CMP Are you receiving our - our tracking data?

03 08 41 27 CMP Okay, thank you.

03 08 41 47 CMP Roger; will do. Now, isn't this ... in the flight plan, some place along the way, there?

03 08 42 04 CMP Are you getting out, Frank? You getting out?

03 08 42 37 LMP Wait a minute; pitch up. You ... you pitch down ...

03 08 42 56 CMP Well, let me see now. That's the right connection; I think so. We got - Where is the filter, Bill?

03 08 43 05 LMP I think they made a mistake here in the flight plan.

03 08 43 07 CMP Oh, you have it on here, huh?

03 08 43 11 CMP Do you have the water - This - URINE HEATER's been ON, right?

03 08 43 14 LMP If you pitch down, yes -

03 08 43 37 CMP Okay, we have the hose connected, so we want to go through the procedure.

03 08 43 47 LMP Okay, WASTE STOWAGE VENT, VENT for 5 seconds.

03 08 43 51 CMP You want to be - -

03 08 43 52 CDR ...

03 08 43 54 CMP I'll show you; just a minute.

03 08 44 00 CMP Yes, they're OPENED and CLOSED ... here. I'm in 4-A?
Okay, if it's reading 1, I could put WASTE - WASTE TANK's VENT for 5 seconds, huh?

03 08 44 12 LMP Right, WASTE STOWAGE, VENT, yes, for 5 seconds.

03 08 44 17 CMP Done.

03 08 44 21 CMP BATTERY, VENT.

03 08 44 22 LMP 4-A?

03 08 44 25 CMP Yes. Take her down?

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03 08 44 27 LMP Take the BATTERY, VENT, down. It's not down; let it come down.

03 08 44 31 CMP Well, it's getting real close to it.

03 08 44 32 LMP Oh, there it goes. Okay, it's down.

03 08 44 34 CMP It's down?

03 08 44 35 LMP Okay, CLOSE them both.

03 08 44 37 LMP Make sure your URINE HEATER's ON.

03 08 44 44 CMP URINE HEAT's on A.

03 08 44 45 LMP Okay. And - go ahead and dump the waste.

03 08 44 48 CMP Okay, we take that over and put it on - where it says, "OPEN/CLOSE, WASTE TANK SERVICING."

03 08 44 55 LMP Yes.

03 08 44 56 CMP Put that to OPEN. Leave it go in there.

03 08 45 03 CMP Okay, now we got to watch the waste tank.

03 08 45 11 LMP Yes, I'm watching it.

03 08 45 13 CMP You're watching it? Okay. You got WASTE TANK, ON, then?

03 08 45 16 LMP Yes.

03 08 45 17 CMP Okay.

03 08 45 20 LMP I don't know, Frank.

03 08 45 36 CMP It's still pretty good. Let's see here...

03 08 45 38 LMP Okay, we're dumping the waste tank now, Houston.

03 08 45 42 LMP You want to get up here now?

03 08 45 48 CMP Okay, just about even.

03 08 45 59 CMP You want to get up on one of these seats? You want to get up here?

03 08 46 05 LMP This is okay over here. Clear.

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03 08 46 25 LMP It'd be a good time to do it, because there's more - Jim's really the only one that's busy, and I can fix his.

03 08 46 45 LMP Yes.

03 08 46 47 LMP Yes, it - it'll take a good while.

03 08 46 53 LMP It's up at 85 percent. Right now, it's 47.

03 08 46 59 CMP How much film do we have left over, Bill?

03 08 47 02 LMP Well, I'll tell you, Jim, these windows are so bad, you can just take pictures - say one - We need - we need - Don't get into that interior - interior's for inside stuff; and we need one - 16 millimeter for the convergent stereo, and - oh, about a half of one for that image-motion compensation which - kind of a low-priority thing.

03 08 47 33 CMP Do you - do you want VERB 83? Did you look for - -

03 08 47 40 LMP Yes, it's the ... isn't all that bad, but we could try - we are allowed to yaw. We could try VERB 83 for drill.

03 08 47 59 CMP Okay, I'd better get out the books and - -

03 08 48 00 LMP This one says 92; I'll crank it around a little bit.

03 08 49 09 CMP Okay, how's our RCS doing?

03 08 49 11 LMP Good.

03 08 49 12 CMP Let's see if - -

03 08 49 14 LMP Well, it hasn't changed since we started. See, it's still about - 67 percent.

03 08 49 28 LMP SPS is holding steady.

03 08 49 32 LMP Did you cycle through the EPS, Jim? ... - -

03 08 49 38 CMP No, I haven't done that, yet. Okay, and don't forget - -

03 08 49 42 CDR ...

03 08 49 43 LMP Yes, well -

03 08 50 02 CMP Okay, EPS. You're on BAT B charge, you know?

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03 08 50 05 LMP Yes, just leave that there, don't change that.

03 08 50 07 CMP Okay, it's 39 ... now.

03 08 50 14 CMP Okay, I can cycle this one okay, right?

03 08 50 17 LMP Slip those around those cameras, Jim, and I'll fix them while you're shooting that landing site.

03 08 50 30 LMP Okay, we got - let's see, we got 23 minutes until sunrise, so we've got a lot of time.

03 08 50 49 LMP I haven't seen that water going down any at all.

03 08 50 52 CDR ...

03 08 50 55 CMP Well, ... steam pressure's - -

03 08 50 56 LMP It's not going down any.

03 08 50 58 CDR Bill.

03 08 50 59 LMP Not going down.

03 08 51 00 CDR What?

03 08 51 01 LMP Not going down.

03 08 51 03 CMP Ask Houston if it's -

03 08 51 04 LMP Okay, you want to - Let's see here. Put the purge line - Take that wat - Shut the wa - Well, that off - put the water on, and - put that purge fitting on it.

03 08 51 16 CDR ...

03 08 51 19 LMP Oh!

03 08 51 20 CDR ...

03 08 51 22 CMP That's one thing you forgot to tell us!

03 08 51 23 LMP (Laughter)

03 08 51 28 CMP Here it goes.

03 08 51 29 LMP Yes, I can see it; it's dumping.

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03 08 51 33 CMP And we solved another mystery!

03 08 51 37 CMP We have three problems and one's F. Borman.

03 08 51 40 CDR ...

03 08 51 42 LMP Yes, it's going down.

03 08 53 01 CMP Go ahead, Houston.

03 08 53 11 CMP Roger.

03 08 53 13 LMP How much longer do you think we have to go on the battery charge there, Mike?

03 08 53 24 LMP If you can wake up the EECOM, why don't you have him ask the back room?

03 08 53 36 LMP (Laughter)

03 08 53 40 LMP Yes, it is. Yes.

03 08 53 50 LMP Okay, thank you very much.

03 08 54 30 CDR ...

03 08 54 31 LMP Huh?

03 08 54 33 CDR ... water?

03 08 54 36 LMP 60 - 70 - 75 percent, 75 percent.

03 08 54 42 LMP Yes.

03 08 54 56 CMP (Singing)

03 08 55 42 CMP Well, did you guys ever think that one Christmas you'd be orbiting the moon?

03 08 55 47 CMP I say, one Christmas Eve you'd be orbiting the moon?

03 08 55 51 LMP Just hope we are not doing it on New Year's.

03 08 55 54 CMP Hey, hey, don't talk like that, Bill; think positive.

03 08 55 57 CDR ...

03 08 55 59 LMP I said, just hope we don't do it on New Year's.

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03 08 56 02 CC ...

03 08 56 04 LMP Okay, see you on the other side, Mike.

03 08 56 20 LMP Me, too.

03 08 56 25 CMP That was pretty spectacular: never to see the moon until just before braking into - into LOI.

03 08 56 32 LMP That's kind of a nonchalant approach, you know that (laughter)? Remember Warren North's procedure of eyeball the moon, and whatever we had to do to -

03 08 56 41 CMP Yes, ...

03 08 56 50 LMP Would you turn my S-BAND VOLUME down to about 2, Mike - Jim?

03 08 56 54 CDR ...

03 08 57 10 LMP The other way (laughter).

03 08 57 12 CMP How's that?

03 08 57 13 LMP Great!

03 08 57 16 LMP You know that venting - that water put a good torque on us.

03 08 57 20 CMP Well, I'm debating now, - I'm debating whether to use it again or not, Frank.

03 08 57 23 CMP I can use it for the landing site, I guess, again.

03 08 57 29 LMP Hey, we were tracking down there real nice. Soon as we started to vent, we went poof!

03 08 57 34 CMP Is that right?

03 08 57 35 LMP Yes.

03 08 57 36 CMP You'd better have - It's a good thing we are venting now, and not on that 10th REV or something like that.

03 08 57 42 CMP Did you sleep?

03 08 57 46 CMP We're on the 7th - coming over here - Where are we? We're coming from here.

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03 08 57 58 CMP Yes, we're coming - Actually we are right down here.
How's your - There's one I've got to get. Huh?

03 08 58 30 CMP You all finished with 83, Bill?

03 08 58 33 LMP Yes, I sure am.

03 08 58 37 CMP I'll see if our orbit has changed any.

03 08 59 08 CMP These optics are outstanding.

03 08 59 10 CDR What?

03 08 59 12 CMP The optics.

03 08 59 28 CDR ...

03 08 59 35 CMP Yes.

03 08 59 41 LMP Okay, water quantity is 55 percent.

03 08 59 44 CDR How much?

03 08 59 45 LMP 55.

03 08 59 58 CMP 5th REV.

03 09 00 02 CMP 7 and 8 are the last two that we got. You got TV right
down here.

03 09 00 19 LMP O₂ FLOW HIGH.

03 09 00 23 CDR Huh?

03 09 00 24 LMP O₂ high flow; it's from that venting, I guess.

03 09 00 29 LMP That and - oh, the water - the accumulator just came
on. The accumulator just came on.

03 09 01 10 CDR ...

03 09 01 12 LMP 50 percent.

03 09 01 18 CMP Are you in position, Bill?

03 09 01 20 LMP Yes.

03 09 01 22 CMP 81:01, it's coming up on that time, now.

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03 09 01 26 CMP 81:09, I got to get this stuff started.

03 09 01 30 LMP ...

03 09 01 49 LMP This one calls for pitch down 5 degrees, Jim.

03 09 01 55 LMP You want to do that, or are you just going to do that 10-degree thing?

03 09 01 59 CMP No, you can - pitch at least on the horizon for this, because - otherwise, it's going to - This hasn't changed though, I don't think.

03 09 02 11 LMP Well, it has in the flight plan, whether you - it's up to you, however you want it. Doesn't make any difference - -

03 09 02 14 CMP Huh?

03 09 02 15 LMP - - I can't see anything out here anyway.

03 09 02 16 CMP I just don't want to get the sun in my eyes.

03 09 02 18 LMP You want me to pitch down to the horizon or past?

03 09 02 24 CMP Yes, you can pitch down a little bit past the horizon.

03 09 02 26 LMP Give me a moment here, then.

03 09 02 48 LMP Okay, you want to hop in here, Frank?

03 09 02 50 LMP Say, you want to get in here?

03 09 02 54 CDR ...

03 09 02 56 LMP Okay.

03 09 03 09 LMP Huh?

03 09 03 13 LMP Oh, okay.

03 09 03 18 LMP I can put this ... right there.

03 09 03 44 LMP Is it?

03 09 03 52 LMP Okay. That better?

03 09 04 02 LMP It's about 35, huh, Frank?

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03 09 04 11 LMP Well, I still say 35.

03 09 04 20 LMP Well, it does. You got to lead it a little bit, because it's - Any time now - It - it always drops a little bit more.

03 09 04 27 CDR ...

03 09 04 28 LMP Yes, it would be a good time.

03 09 04 30 LMP Jim, you want to give him that vacuum vent?

03 09 04 41 LMP Okay, stick the vacuum thing on there, and vent it for a while.

03 09 04 44 CMP Here's the vacuum.

03 09 04 45 CDR ...

03 09 04 46 CMP What?

03 09 04 47 CDR ...

03 09 04 49 CMP Here you go.

03 09 05 22 CMP We might get a possible program alarm.

03 09 06 15 CMP What's your attitude, Bill?

03 09 06 17 LMP I'm about 5 degrees pitch down and 5 degrees roll right.

03 09 06 30 SC (Blowing nose)

03 09 07 09 CMP Did you get through?

03 09 07 10 CMP Okay ...

03 09 07 11 CDR Okay, Jim.

03 09 07 13 CMP Well, the sunlight suddenly came in there. It wasn't like the last time I saw it.

03 09 07 20 LMP I'm pitched down quite a bit this time.

03 09 07 30 CMP Okay. Keep tracking, Bill. She'll be ready.

03 09 07 38 CMP I changed the IP, Frank. I thought this had a better symbol to it. I can remember this one better.

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03 09 07 49 LMP When did you start the first time?
03 09 07 52 CMP Let's see.
03 09 07 55 CDR ...
03 09 07 56 LMP Say again.
03 09 07 58 CMP How's the water doing?
03 09 08 02 CMP 81:09 is -
03 09 08 05 LMP Yes, I do.
03 09 08 06 CMP Yes, I have -
03 09 08 19 CMP We're still throwing away a lot of stuff on that.
03 09 08 56 CMP You want something to hold on to or what?
03 09 09 50 CMP Boy, you ought to see the lunar surface with this
28-power scope!
03 09 10 05 CMP This is fantastic!
03 09 10 13 LMP Can you see anything at all that looks like a volcano?
03 09 10 16 CMP No.
03 09 10 17 LMP Huh?
03 09 10 19 CMP This is utterly fantastic!
03 09 10 27 CMP You should get it when it's just rising - you get it
with just the horizon still there; you've got to
hurry, though. I've got to take a shot here shortly.
03 09 10 39 CMP She's tracking.
03 09 10 46 CMP I got it right there, big as the mark.
03 09 11 25 CMP Where - How far are you pitched down now, Bill?
03 09 11 27 LMP 10 degrees - 6 degrees.
03 09 11 32 LMP Too much?

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